

WHAT IS CLAIMED IS:

Sub 7

1. A laminate comprised of a thermoplastic substrate layer, a clear coat layer, and a tie layer comprised of an adhesive-enhancing effective amount of a maleic anhydride grafted styrenic block copolymer which adhesively bonds said substrate and clear coat layers one to another.

2. The laminate of claim 1, wherein said block copolymer comprises at least about 0.5 wt.% maleic anhydride grafted onto a linear styrene-ethylene/butylene-styrene backbone.

3. The laminate of claim 2, wherein said maleic anhydride is present in an amount of at least about 1.5 wt.%.

4. The laminate of claim 2, wherein said maleic anhydride is present in an amount of at least about 2.0 wt.%.

5. The laminate of claim 1, which further comprises a diamine.

6. The laminate of claim 5, wherein the diamine is present in an amount up to about 3.0 wt.% based on the total tie layer weight.

7. The laminate of claim 5, wherein the diamine is present in an amount between about 0.5 wt.% to about 1.5 wt.%.

8. The laminate of claim 5, wherein the diamine is 2-methylpentamethylenediamine.

Supply

9. The laminate of claim 1, wherein the substrate layer is a thermoplastic polyolefin (TPO).

10. The laminate of claim 9, wherein the clear coat layer is a polyvinyl fluoride.

11. The laminate of claim 1, wherein the clear coat layer is a polyvinyl fluoride.

12. A method of making a laminate comprising forming a prelaminate by interposing a tie layer comprised of an adhesive-enhancing effective amount of a maleic anhydride grafted styrenic block copolymer between a thermoplastic substrate layer and a clear coat layer, and subjecting the prelaminate to elevated temperature and pressure sufficient to adhesively bond the substrate and clear coat layers one to another.

13. The method of claim 12, wherein said step of interposing the tie layer includes dissolving the styrenic block copolymer in a solvent, applying a solution of the solvent and styrenic block copolymer onto a surface of at least one of the substrate layer and clear coat layer, and thereafter allowing the solvent to evaporate so that the styrenic block copolymer remains as a dried film residue thereon.

14. The method of claim 12, wherein said step of interposing the tie layer includes extruding a melt of the styrenic block copolymer onto at least one of the substrate layer and clear coat layer.

15. The method of claim 12, wherein said block copolymer comprises at least about 0.5 wt.% maleic anhydride grafted onto a linear styrene-ethylene/butylene-styrene backbone.

16. The method of claim 15, wherein said maleic anhydride is present in an amount of at least about 1.5 wt.%.

17. The method of claim 15, wherein said maleic anhydride is present in an amount of at least about 2.0 wt.%.

18. The method of claim 12, which further comprises a diamine.

19. The method of claim 18, wherein the diamine is present in an amount up to about 3.0 wt.% based on the total tie layer weight.

20. The method of claim 18, wherein the diamine is present in an amount between about 0.5 wt.% to about 1.5 wt.%.

21. The method of claim 18, wherein the diamine is 2-methylpentamethylenediamine.

22. The method of claim 12, wherein the substrate layer is a thermoplastic polyolefin (TPO).

23. The method of claim 22, wherein the clear coat layer is a polyvinyl fluoride.

24. The method of claim 12, wherein the clear coat layer is a polyvinyl fluoride.

Sub 107

25. A shaped article which includes a laminate according to any one of claims 1-11.

26. The shaped article of claim 25, in the form of an automotive trim component.

27. Automotive trim which comprises as a visible component a laminate comprised of a thermoplastic substrate layer, a clear coat layer, and a tie layer comprised of an adhesive-enhancing effective amount of a maleic anhydride grafted styrenic block copolymer which adhesively bonds said substrate and clear coat layers one to another.

28. The automotive trim of claim 27, wherein the substrate layer includes an amount of a colorant so as to impart a predetermined color to the laminate.

29. The automotive trim of claim 28, wherein said clear coat and layer is at least 90% transparent to visible light so that the color of the substrate layer is visible therethrough.

30. The automotive trim of claim 29, wherein said tie layer is at least 70% transparent to visible light so that the color of the substrate layer is visible therethrough.

31. A tie layer material for adhesively bonding plastic film layers one to another to form a laminate structure thereof, said tie layer material comprising a blend of a maleic anhydride grafted styrenic block copolymer and a diamine.

5/26/73

32. The tie layer material of claim 31, wherein the diamine is present in an amount up to about 3.0 wt.% based on the total tie layer weight.
33. The tie layer material of claim 31, wherein the diamine is present in an amount between about 0.5 wt.% to about 1.5 wt.%.
34. The tie layer material of claim 31, wherein the diamine is 2-methylpentamethylenediamine.